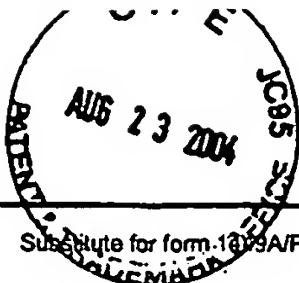


6/2/04

Stylesheet Version v18.0

Title of Invention	Automatic Routing System with Variable Width Interconnect						
Application Number: 10/709844							
Confirmation Number: 3843							
First Named Applicant: Graham Balsdon							
Attorney Docket Number: 021648-000700us							
Search string: (5793643 or 5801959 or 6543043 or 6408427 or 6349403 or 6324675 or 6282693 or 6301693 or 6526555 or 6687893).pn.							
US Patent Documents							
Note: Applicant is not required to submit a paper copy of cited US Patent Documents							
init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
NL	1	5793643	1998-08-11	Cai			
↑	2	5801959	1998-09-01	Ding et al.			
	3	6543043	2003-04-01	Wang et al.			
	4	6408427	2002-06-18	Cong et al.			
	5	6349403	2002-02-19	Dutta et al.			
	6	6324675	2001-11-27	Dutta et al.			
	7	6282693	2001-08-28	Naylor et al.			
	8	6301693	2001-10-09	Naylor et al.			
↓	9	6526555	2003-02-25	Teig et al.			
NL	10	6687893	2004-02-03	Teig et al.			
Signature							
Examiner Name				Date			
Nan				6/22/06			



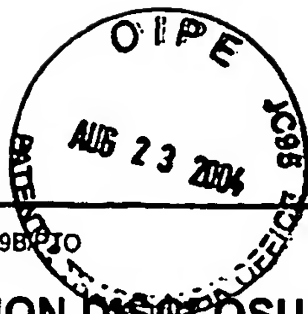
Substitute for form 10/99A/PTO		Complete if Known			
		Application Number	10/709,844		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Filing Date	June 1, 2004		
		First Named Inventor	Balsdon, Graham		
		Art Unit	2173		
		Examiner Name	To Be Assigned		
Sheet	1	of	2	Attorney Docket Number	21648-000700US

U.S. PATENT DOCUMENTS+					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number Kind Code ² (if known)			
	AA	US-			
	AB	US-			
	AC	US-			
	AD	US-			
	AE	US-			
	AF	US-			
	AG	US-			
	AH	US-			
	AI	US-			
	AJ	US-			
	AK	US-			
	AL	US-			
	AM	US-			

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)				
	AN							<input type="checkbox"/>
	AO							<input type="checkbox"/>
	AP							<input type="checkbox"/>
	AQ							<input type="checkbox"/>
	AR							<input type="checkbox"/>
	AS							<input type="checkbox"/>
	BA							<input type="checkbox"/>
	BB							<input type="checkbox"/>

Examiner Signature		Date Considered	
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Substitute for form 1449B PTO		Complete if Known	
		Application Number	10/709,844
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Filing Date	June 1, 2004
		First Named Inventor	Balsdon, Graham
		Art Unit	2473 2825
		Examiner Name	To Be Assigned <i>Namm Levin</i>
		Attorney Docket Number	21648-000700US
Sheet	2	of	2

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
<i>NL</i>	BC	FINCH, MACKENZIE, BALSDON, SYMONDS, "A Method for Gridless Routing of Printed Circuit Boards," Paper 32.2, 22nd Design Automation Conference, IEEE, 1985, PP. 509-515, Racal-Redac Ltd., Newtown, Towkesbury, Glos, United Kingdom.	
	BD		
	BE		
	BF		
	BG		
	BH		
	BI		
	BJ		
	BK		
	BL		
	BM		

Examiner Signature	<i>Namm Levin</i>	Date Considered	6/22/06
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¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

6/4/05

ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention

Automatic Routing System with Variable Width Interconnect

Application Number : 10/709844



Confirmation Number: 3843

First Named Applicant: Graham Balsdon

Attorney Docket Number: 021648-000700US

Art Unit: 2473 2825

Examiner: Namm Levin

Search string: (6734472 or 6711727 or 6671859 or 6662348 or 6598215 or 6564366 or 6543043 or 6526555 or 6510545 or 6507941 or 6480996 or 6480993 or 6408427 or 6349403 or 6324675 or 6301693 or 6282693 or 6219823 or 5880969 or 5801959 or 5757089 or 5550748 or 5375069 or 5353235 or 5272645 or 5072402 or 4965739 or 4815003 or 4811237).pn

US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
NL	1	6734472	2004-05-11	Ho			
↑	2	6711727	2004-03-23	Teig et al.			
	3	6671859	2003-12-30	Naylor et al.			
	4	6662348	2003-12-09	Naylor et al.			
	5	6598215	2003-07-22	Das et al.			
	6	6564366	2003-05-13	Marchenko et al.			
	7	6543043	2003-04-01	Wang et al.			
	8	6526555	2003-02-25	Teig et al.			
	9	6510545	2003-01-21	Yee et al.			
	10	6507941	2003-01-14	Leung et al.			
	11	6480996	2002-11-12	Aji et al.			
	12	6480993	2002-11-12	Suto et al.			
	13	6408427	2002-06-18	Cong et al.			
	14	6349403	2002-02-19	Dutta et al.			
	15	6324675	2001-11-27	Dutta et al.			
	16	6301693	2001-10-09	Naylor et al.			
	17	6282693	2001-08-28	Naylor et al.			
↓	18	6219823	2001-04-17	Hama et al.			
	19	5880969	1999-03-09	Hama et al.			
NL	20	5801959	1998-09-01	Ding et al.			

NL	21	5757089	1998-05-26	Ishizuka			
↑	22	5550748	1996-08-27	Xiong			
	23	5375069	1994-12-20	Satoh et al.			
	24	5353235	1994-10-04	Do et al.			
	25	5272645	1993-12-21	Kawakami et al.			
	26	5072402	1991-12-10	Ashtaputre et al.			
	27	4965739	1990-10-23	Ng et al.			
✓	28	4815003	1989-03-21	Putatunda et al.			
NL	29	4811237	1989-03-07	Putatunda et al.			

Signature

Examiner Name	Date
<i>Norm</i>	6/22/06

6/6/05

ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention

Automatic Routing System with Variable Width Interconnect

Application Number : 10/709844



Confirmation Number: 3843

First Named Applicant: Graham Balsdon

Attorney Docket Number: 021648-000700US

Art Unit: ~~2173~~ 2825

Examiner: *Norman Levin*

Search string: (6480996 or 5500804 or 4615011 or 4673966 or 4777606).pn

US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
NL	1	6480996	2002-11-02	Aji et al.			
A	2	5500804	1996-03-19	Honsinger et al.			
I	3	4615011	1986-09-30	Linsker			
X	4	4673966	1987-06-16	Shimoyama			
NL	5	4777606	1988-10-11	Fournier			

Signature

Examiner Name	Date
<i>Norman Levin</i>	<i>06/22/06</i>

ELECTRONIC INFORMATION DISCLOSURE STATEMENT

6/22/06

Electronic Version v18

Stylesheet Version v18.0

**Title of
Invention**

**AUTOMATIC ROUTING SYSTEM WITH VARIABLE WIDTH
INTERCONNECT**

Application Number : 10/709844



Confirmation Number: 3843

First Named Applicant: Graham Balsdon

Attorney Docket Number: 021648-000700US

Art Unit: 2173 2825

Examiner: Norman Levin

Search string: (6895567 or 4782193 or 4855253 or 5541005 or 5635736 or 5637920 or 5640327 or 5646830 or 5650653 or 5689433 or 5723908 or 5784289 or 5801385 or 5811863 or 5822214 or 5880969 or 5889329 or 5980093 or 6111756 or 6150193 or 6260183 or 6262487 or 6263475 or 6301686 or 6307256 or 6316838 or 6323097 or 6324674 or 6412097 or 6448591 or 6516455 or 6645842 or 20010004763 or 20010009031 or 20020069397 or 20030025205).pn

US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
NL	1	6895567	2005-05-17	Teig et al.			
✓	2	4782193	1988-11-30	Linsker			
	3	4855253	1989-08-30	Weber			
	4	5541005	1996-07-30	Bezama et al.			
	5	5635736	1997-06-30	Funaki et al.			
	6	5637920	1997-06-30	Loo			
	7	5640327	1997-06-30	Ting			
	8	5646830	1997-07-30	Nagano			
	9	5650653	1997-07-30	Rostoker et al.			
	10	5689433	1997-11-30	Edwards			
	11	5723908	1998-03-30	Fuchida et al.			
	12	5784289	1998-07-30	Wang			
	13	5801385	1998-09-30	Endo et al.			
	14	5811863	1998-09-30	Rostoker et al.			
	15	5822214	1998-10-30	Rostoker et al.			
	16	5880969	1999-03-30	Hama et al.			
	17	5889329	1999-03-30	Rostoker et al.			
✓	18	5980093	1999-11-30	Jones et al.			
NL	19	6111756	2000-08-30	Moresco			

NL	20	6150193	2000-11-30	Glenn			
↑	21	6260183	2001-07-30	Raspopovic et al.			
	22	6262487	2001-07-30	Igarashi et al.			
	23	6263475	2001-07-30	Toyonaga et al.			
	24	6301686	2001-10-30	Kikuchi et al.			
	25	6307256	2001-10-30	Chiang et al.			
	26	6316838	2001-11-30	Ozawa et al.			
	27	6323097	2001-11-30	Wu et al.			
	28	6324674	2001-11-30	Andreev et al.			
	29	6412097	2002-06-30	Kikuchi et al.			
	30	6448591	2002-09-30	Juengling			
↓	31	6516455	2003-02-28	Teig et al.			
NL	32	6645842	2003-11-28	Igarashi et al.			

US Published Applications

Note: Applicant is not required to submit a paper copy of cited US Published Applications

init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
NL	1	20010004763	2001-06-28	Kato			
↑	2	20010009031	2001-07-28	Nitta et al.			
↓	3	20020069397	2002-06-28	Teig et al.			
NL	4	20030025205	2003-02-28	Shively			

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Examiner Name	Date
<i>Norm On</i>	<i>6/22/06</i>

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)

Application Number	10709844
Filing Date	2004-06-01
First Named Inventor	Graham Balsdon
Art Unit	2173 2825
Examiner Name	Naum Levin
Attorney Docket Number	21648-000700US

U.S.PATENTS

Remove

Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
NL	1	5636129		1997-06-30	Her	

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NL	1	20050240893		2005-10-30	Teig et al	

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NL	1	03262144	JP	A	1991-11-30	Itou		<input type="checkbox"/>

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NON-PATENT LITERATURE DOCUMENTS

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10709844
Filing Date	2004-06-01
First Named Inventor	Graham Balsdon
Art Unit	2173
Examiner Name	
Attorney Docket Number	21648-000700US

NL	1	Ng, "Gridless' Variable-Width Channel Router for Macro Cell Design", 24th Conference on Design Automation, May 28 - June 1, 2987, pp. 633-636	<input type="checkbox"/>
NL	2	Dubois et al., "New Advances in the Routing of Mixed Analog and Digital Channels", IEEE International Symposium on Circuits and Systems, Vol. 4, June 11-14, 1991, pp. 1956-1959	<input type="checkbox"/>
NL	3	Polk, "A Three-Layer Gridless Channel Router with Compaction", 24th Conference on Design Automation, May 28 - June 1, 1987, pp. 146-151	<input type="checkbox"/>
NL	4	Chen et al., "Glitter: A Gridless Variable-Width Channel Router", IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, Vol. 5, No. 4, pp. 459 - 465	<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/Naum Levin/	Date Considered	06/22/2006
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10709844
Filing Date	2004-06-01
First Named Inventor	Graham Balsdon
Art Unit	2173
Examiner Name	
Attorney Docket Number	21648-000700US

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- ☐ See attached certification statement.
- ☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	
Name/Print		Registration Number	

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.